CLAIMS

1. (currently amended) A method of processing a web service description so that said web service description is adapted for use with a mobile device[[s]], said web service description comprising a plurality of web service description elements, wherein said method is performed at a computing device remotely coupled to the mobile device, said method comprising the steps of:

> a) receiving a web service description, wherein said web service description defines an interface to a web service;
>
> b) creating at least one accelerator output file from said web service description, said creating comprising optimizing said web service description for said mobile device, wherein said at least one accelerator output file comprises an optimized web service description is adapted for processing by [[a]] said mobile device; and
>
> c) transmitting said at least one accelerator output file to said mobile device, wherein said at least one accelerator output file facilitates invocations of said web service by said mobile device;

wherein said optimizing comprises resolving symbolic references in said web service description such that said at least one accelerator output file is parseable by said mobile device in one pass; and

wherein said resolving comprises

> representing the plurality of web service description elements as nodes in a graph,
>
> re-ordering the nodes into a tree data structure so that said symbolic references are resolved in a forward direction, and
>
> creating said at least one accelerator output file from said tree data structure.

2. (original) The method of claim 1, wherein said web service description is in Web Service Description Language.

3. (original) The method of claim 1, wherein invocations of the web service by the mobile device are performed in accordance with a Simple Object Access Protocol.

4. (cancelled).

5. (cancelled).

6. (currently amended) The method of claim [[4]] 1, wherein each of a subset of said plurality of web service description elements is associated with transport protocols not supported by said mobile device, and wherein said at least one optimizing step further comprises identifying said subset, and excluding said subset from said at least one accelerator output file created at said creating step.

7. (currently amended) The method of claim [[4]] 1, wherein said at least one optimizing step further comprises modifying one or more names associated with each of one or more web service description elements.

8. (currently amended) The method of claim [[4]] 1, further comprising validating said at least one accelerator output file.

9. (currently amended) The method of claim [[4]] 1, further comprising processing said at least one accelerator output file by identifying web service description elements that define inputs to said web service, a destination, and a format for said inputs from said optimized web service description.

10. (original) The method of claim 9, further comprising invoking said web service by transmitting input data to said destination in said format.

11. (original) The method of claim 10, further comprising receiving output data from said web service in response to said invoking step.

12. (currently amended) The method of claim [[4]] 1, wherein said at least one optimizing step further comprises extracting invocation information from said web service description, and storing said invocation information.

13. (original) The method of claim 12, further comprising processing said at least one accelerator output file by identifying web service description elements that define inputs to said web service and obtaining operation parameters based on said inputs.

14. (original) The method of claim 13, further comprising generating input data by combining said operation parameters with said invocation information.

15. (original) The method of claim 14, further comprising invoking said web service by transmitting said input data to said web service.

16. (original) The method of claim 15, further comprising receiving output data from said web service in response to said invoking step.

17. (original) The method of claim 1, wherein said at least one accelerator output file comprises code adapted for execution on said mobile device, for obtaining input data used to invoke said web service, and for invoking said web service using said input data.

18. (original) The method of claim 17, wherein said creating step comprises the following substeps:

    a) identifying web service description elements that define inputs to said web service from said web service description;

    b) producing first instructions for generating a user interface to prompt a user for one or more of said inputs to said web service;

    c) producing second instructions for obtaining input data associated with said one or more inputs;

    d) identifying web service description elements that define a destination and a format for said inputs to said web service; and

     e) producing third instructions for invoking said web service by transmitting said input data to said destination in said format.

19. (original) The method of claim 18, wherein said creating step further comprises the substeps of:

     f) identifying web service description elements that define outputs from said web service in response to invocations of said web service and a format for said outputs from said web service description; and

     g) producing fourth instructions for receiving output data in said format from said web service.

20. (original) The method of claim 19, wherein said creating step further comprises the substep of:

     h) producing fifth instructions for outputting output data received from said web service to said user.

21. (original) The method of claim 17, wherein said creating step further comprises compiling instructions produced at said creating step into said code.

22. (original) The method of claim 21, wherein said code represents an executable Java application.

23. (original) The method of claim 17, further comprising processing said at least one accelerator output file by executing said code.

24. (currently amended) A web services accelerator, wherein said web services accelerator resides on a computing device in a network in which said computing device is coupled to a mobile device, wherein said web services accelerator is programmed to perform the steps of a method of processing a web service description so that said web service description is adapted for use with said mobile device, said web service description comprising a plurality of web service description elements, said method comprising the steps of:

a) receiving a web service description, wherein said web service description defines an interface to a web service;

b) creating at least one accelerator output file from said web service description, said creating comprising optimizing said web service description for said mobile device, wherein said at least one accelerator output file comprises an optimized web service description is adapted for processing by said mobile device; and

c) transmitting said at least one accelerator output file to said mobile device, wherein said at least one accelerator output file facilitates invocations of said web service by said mobile device;

wherein said optimizing comprises resolving symbolic references in said web service description such that said at least one accelerator output file is parseable by said mobile device in one pass; and

wherein said resolving comprises

representing the plurality of web service description elements as nodes in a graph,

re-ordering the nodes into a tree data structure so that said symbolic references are resolved in a forward direction, and

creating said at least one accelerator output file from said tree data structure.

25. (original) The web services accelerator of claim 24, wherein said web service description is in Web Service Description Language.

26. (original) The web services accelerator of claim 24, wherein invocations of the web service by the mobile device are performed in accordance with a Simple Object Access Protocol.

27. (cancelled).

28. (cancelled).

29. (currently amended) The web services accelerator of claim 24 ~~27~~, wherein each of a subset of said plurality of web service description elements is associated with transport protocols not supported by said mobile device, and wherein said ~~at least one~~ optimizing ~~step~~ <u>further</u> comprises identifying said subset, and excluding said subset from said at least one accelerator output file created at said creating step.

30. (currently amended) The web services accelerator of claim 24 ~~27~~, wherein said ~~at least one~~ optimizing ~~step~~ <u>further</u> comprises modifying one or more names associated with each of one or more web service description elements.

31. (currently amended) The web services accelerator of claim 24 ~~27~~, wherein said method further comprises validating said at least one accelerator output file.

32. (currently amended) The web services accelerator of claim 24 ~~27~~, wherein said at least one optimizing step comprises extracting invocation information from said web service description, and storing said invocation information.

33. (original) The web services accelerator of claim 32, wherein said method further comprises obtaining operation parameters based on said inputs from said mobile device.

34. (original) The web services accelerator of claim 33, wherein said method further comprises generating input data by combining said operation parameters with said invocation information.

35. (original) The web services accelerator of claim 34, wherein said method further comprises invoking said web service by transmitting said input data to said web service.

36. (original) The web services accelerator of claim 35, wherein said method further comprises receiving output data from said web service in response to said invoking step.

37. (original) The web services accelerator of claim 36, wherein said method further comprises transmitting at least a subset of said output data to said mobile device.

38. (currently amended) The web services accelerator of claim 24 27, wherein said method further comprises receiving input data from said mobile device and invoking said web service by transmitting said input data to said web service.

39. (original) The web services accelerator of claim 38, wherein said method further comprises receiving output data from said web service in response to said invoking step and transmitting said output data to said mobile device.

40. (original) The web services accelerator of claim 39, wherein said method further comprises the step of detecting changes to said output data from said web service in response to said invoking step and transmitting said changes to said mobile device.

41. (original) The web services accelerator of claim 24, wherein said at least one accelerator output file comprises code adapted for execution on said mobile device, wherein said code comprises instructions for obtaining input data used to invoke said web service, and for invoking said web service using said input data.

42. (original) The web services accelerator of claim 41, wherein said creating step comprises the following substeps:

       a) identifying web service description elements that define inputs to said web service from said web service description;

       b) producing first instructions for generating a user interface to prompt a user for one or more of said inputs to said web service;

       c) producing second instructions for obtaining input data for said one or more inputs;

       d) identifying web service description elements that define a destination and a format for said inputs to said web service; and

    e) producing third instructions for invoking said web service by transmitting input data to said destination in said format.

43. (original) The web services accelerator of claim 42, wherein said third instructions comprise instructions for receiving said input data from said mobile device and transmitting said input data to said web service.

44. (original) The web services accelerator of claim 43, wherein said creating step further comprises the substeps of:

    f) identifying web service description elements that define outputs from said web service in response to invocations of said web service and a format for said outputs from said web service description; and

    g) producing fourth instructions for receiving output data in said format from said web service.

45. (original) The web services accelerator of claim 44, wherein said creating step further comprises the substep of:

    h) producing fifth instructions for outputting output data received from said web service to said user.

46. (original) The web services accelerator of claim 45, wherein said fifth instructions comprise instructions for receiving said output data from said web services and for transmitting said output data to said mobile device.

47. (original) The web services accelerator of claim 46, wherein said method further comprises the step of detecting changes to said output data from said web service in response to said invoking step and transmitting said changes to said mobile device.

48. (original) The web services accelerator of claim 35, wherein said creating step further comprises compiling instructions produced at said creating step into said code.

49. (original) The web services accelerator of claim 35, wherein said code represents an executable Java application.

50. (currently amended) A computer-readable medium upon which a set of software components is stored, the software components containing instructions for performing, at a computing device remotely coupled to a mobile device, the steps in a method of processing a web service description so that said web service description is adapted for use with said mobile device[[s]], said web service description comprising a plurality of web service description elements, said method comprising the steps of:

> a) receiving a web service description, wherein said web service description defines an interface to a web service;
>
> b) creating at least one accelerator output file from said web service description, said creating comprising optimizing said web service description for said mobile device, wherein said at least one accelerator output file comprises an optimized web service description is adapted for processing by [[a]] said mobile device; and
>
> c) transmitting said at least one accelerator output file to said mobile device, wherein said at least one accelerator output file facilitates invocations of said web service by said mobile device;

wherein said optimizing comprises resolving symbolic references in said web service description such that said at least one accelerator output file is parseable by said mobile device in one pass; and

wherein said resolving comprises

> representing the plurality of web service description elements as nodes in a graph,
>
> re-ordering the nodes into a tree data structure so that said symbolic references are resolved in a forward direction, and
>
> creating said at least one accelerator output file from said tree data structure.